

A ROLE OF BOMBESIN-LIKE PEPTIDES IN FOOD INTAKE: A CENTRAL PERSPECTIVE. Bill Flynn and Laura Robillard. Department of Psychology and Neuroscience Program, University of Wyoming, Laramie, WY.

Converging lines of evidence highlight the significance of caudal brainstem structures in mediating the behavior-controlling effects of bombesin/gastrin releasing peptide. Such evidence includes observations that 4th ventricle injections of BN reduce food intake in both intact and chronic decerebrate rats and that 4th ventricle pretreatment with bombesin receptor antagonists block the ability of 4th ventricle injections of BN to reduce feeding. Furthermore, 4th ventricle injections of BN receptor antagonists ($[D\text{-Phe}^{12}, \text{Leu}^{14}]BN$, $[D\text{-Phe}^6]BN(6\text{-}13)$ methyl ester) reliably facilitate food intake in sated rats. Within the caudal brainstem, evidence will be presented that implicates the rostral and caudal nucleus of the solitary tract (NST). First, local injections of BN into the NST suppress food intake without affecting activity levels; second, lesions of the NST attenuate the ability of peripheral BN injections to suppress feeding; third, local injections of BN into behaviorally effective intra-NST sites facilitate single unit activity. This raises the possibility that nuclei projecting to and receiving projections from the NST are elements in a neural circuit that underlie the effects of BN-like peptides on feeding. (Supported by RO1-NS24879)